## REMARKS

The Examiner is thanked for the careful review of the application and the indication of allowable claims 1-7 and 15-20.

In the specification:

With respect to the Examiner's objection to the drawings as failing to comply with 37 CFR 1.84(p)(5) because they include reference sign(s) not mentioned in the description, the specification has been amended to include the reference signs. (See paragraph 2 of the Office Action).

The current status of the related application is as stated (i.e., "co-pending") in the original application. (See paragraph 3(A) of the Office Action).

The specification has been amended to correct the informalities noted in paragraphs 3(B)(1)(a), 3(B)(1)(b), 3(B)(1)c), 3(B)(1)(c), 3(B)(1)(d), 3(B)(1)(e), 3(B)(1)(f) and the error noted in paragraph 3(C) of the Office Action.

In view of the amendments to the specifications herein and/or discussed above and/or the discussions herein, it is respectfully submitted that all of the Examiner's objections and rejections pertaining to the specification have been addressed and obviated. The withdrawal of the objections and rejections to the specification is respectfully requested.

In the claims:

Applicants have amended claim 8 to specifically point out that claims 8-14, in the manner amended, relates to an apparatus having computer readable codes to be executed using a computer to achieve the goal of forming, using a computer, a plurality of stores into a plurality of clusters. It is respectfully submitted that claims 8-14, in the manner amended, do not merely contain nonfunctional descriptive material as suggested by the Examiner and are directed toward statutory subject matter under 35 USC 101.

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at telephone number 1-(925) 570 8198.

Respectfully submitted,

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# MARKED UP CLAIMS

8.      (Amended)  An apparatus <u>comprising a program storage media having</u> <u>computer readable code embodied therein, said computer readable code being configured</u> for forming, <u>using a computer,</u> a plurality of stores into a plurality of clusters, [comprising computer readable media,] comprising:

computer code for collecting store specific information;

computer code for providing optimized combinations for each individual store based on the store specific information; and

computer code for creating a plurality of clusters based on the closeness of the optimal combinations.

# MARKED UP REPLACEMENT PARAGRAPHS IN SPECIFICATION

The paragraphs below represent the marked up replacement paragraphs, wherein deletions are shown by brackets "[]" and additions are shown by underlining.

At page 4, starting at line 17, please substitute the following paragraph for the deleted paragraph:

> To facilitate understanding FIG. 10 is a broad flow chart of an embodiment of the invention. The steps of FIG. 10 start at step 1000 as shown. Store specific information is collected (step 1004). Such store specific information may be individual store point-of-sales data, cost data, or customer survey data. The store specific information is used and processed to provide optimal combinations fore each individual store (step 1008). In the specification and claims, the use of the word "optimal" may mean a value or combination or selection that is determined through the use of an algorithm as the best result found by the algorithm. Since optimization may be a complex process, the optimal result may not be the absolute best result but may be a localized best result. Clusters of stores are then formed based on the closeness of the optimal combinations for each store (step 1012). New cluster based combinations are then provided (step 1016). The steps of FIG. 10 stop at step 1020.

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At page 5, starting from line 9, please substitute the following paragraph for the deleted paragraph:

To facilitate discussion, FIG. 1 is a flow chart of a process intelligently clustering stores, which is an example of an embodiment of the invention. In this example store specific point-of-sales and cost data has already been collected. The steps of FIG. 1 start at step 100 as shown. First, an optimization is performed using the point-of-sales and cost data (step 104). Preferably, the same optimization is performed for all stores. FIG. 2 is a schematic view of a price optimizing system 200, which may be used to provide a price optimization. The price optimizing system 200 comprises an econometric engine 204, a financial model engine 208, an optimization engine 212, and a support tool 216. The econometric engine 204 is connected to the optimization engine 212, so that the output of the econometric engine 204 is an input of the optimization engine 212. The financial model engine 208 is connected to the optimization engine 212, so that the output of the financial model engine

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208 is an input of the optimization engine 212. The

optimization engine 212 is connected to the support

tool 216 so that output of the optimization engine

212 is provided as input to the support tool 216 and

output from the support tool 216 may be provided

as input to the optimization engine 212. The

econometric engine 204 may also exchange data

with the financial model engine 208.

At page 6, starting from line 5, please substitute the following paragraph for
the deleted paragraph:

FIG. 3 is a more detailed flow chart of a

preferred embodiment of a process that utilizes the

price optimizing system 200 to optimize prices to

perform an optimization (step 104). <u>The steps of</u>

<u>FIG. 3 start at step 300.</u> Data 220 is provided from

the store computer systems 224 to the econometric

engine 204 (step 304). Generally, the data 220

provided to the econometric engine 204 may be

point-of-sale information, product information, and

store information. The econometric engine 204

processes the data 220 to provide demand

coefficients 228 (step 308) for a set of algebraic

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equations that may be used to estimate demand

(volume sold) given certain marketing conditions

(i.e., a particular store in the chain), including a

price point. The demand coefficients 228 are

provided to the optimization engine 212 (step 312).

Additional processed data from the econometric

engine 204 may also be provided to the

optimization engine 212.

At page 8, starting from line 9, please substitute the following paragraph for the deleted paragraph:

FIG. 4 is a more detailed flow chart of a

preferred embodiment of step 108 for creating

clusters (groups) based on the closeness of the

optimized product and price combinations for each

store. The steps of FIG. 4 start at step 400 as

shown. Constraints may be provided (step 404).

Examples of such constraints are prohibiting certain

stores from being within the same cluster, forcing

certain stores to be in the same cluster, setting a

maximum number of clusters, and setting a

minimum cluster size. The forcing certain stores to

be in the same cluster may be used to place

geographically close stores in the same cluster or to

place stores with similar traits, such as being in a

downtown area or near a freeway exit, in the same

cluster.

At page 8, starting from line 19, please substitute the following paragraph for the deleted paragraph:

Stores with the closest prices and which

meet the constraints are then grouped together in

clusters (step 408). There may be many different

approaches to clustering stores with the closest

prices. Such clustering may attempt to minimize

the sum of differences or distances in prices

between stores in a cluster. <u>The steps of FIG. 4 stop</u>

<u>at step 412.</u>

At page 11, starting from line 17, please substitute the following paragraph for the deleted paragraph:

After the clusters are created (step 108),

prices for items in the store are set by cluster so that

stores within the same clusters have items with the

same prices (step 112). Setting the product and

price combinations by cluster is an example of

providing cluster based combinations (step 1016).

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Preferably, the new prices may be obtained by performing a new optimization, where prices are calculated by cluster instead of by store. Such an optimization might be weighted by volume of sales for each store. The steps of FIG. 1 stop at step 116. Table 4 is an example of such an optimization by cluster.

At page 13, starting from line 11, please substitute the following paragraph for the deleted paragraph:

In another embodiment of the invention, it may be found that for some product categories there may be more products available than what may be offered in each store. For example, there may be more than 500 different soap products, although the stores may only have room to sale 200 products. An optimization engine as described above may be used to determine the most profitable combination of products for each store. A chain of 100 stores may have a hundred product combinations. It may be desirable to provide five clusters of product combinations. This embodiment of the invention would provide clusters of stores according to

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product combinations (assortment zones) for an entire store or a product category. FIG. 6 is a flow chart on a broader embodiment of the invention. The steps of FIG. 6 start at step 600 as shown. Store specific point-of-sales or survey data may be collected. Using the above example of soap products, an optimization may be performed using the store specific data to determine a combination of 200 products of the 500 soap products that would optimize sales on a store by store [bases] basis for each of the 100 stores (step 604). The stores are then clustered into five clusters so that each cluster that a store is placed has the most similar combination of products (step 608). Stores are then provided an assortment of products (product combinations) according to the cluster that the store is in (step 612). The steps of FIG. 6 stop at step 616. As mentioned before, such clustering would have lower sales and/or profit than providing individual product combinations for each individual store, but would be designed to maximize sales and/or revenue for different combinations of five

clusters. In one embodiment, the prices are set or

optimized on a store by store basis. In another

embodiment, an optimization may be done where

stores in the same assortment zone form price

clusters. Stores may be placed in an assortment

cluster so that all stores in the same assortment

cluster receive the same assortment and also in a

price cluster so that all stores in the same price

cluster have the same prices.

At page 14, starting from line 16, please substitute the following paragraph for
the deleted paragraph:

FIG. 9 is a flow chart of another

embodiment of the invention. The steps of FIG. 9

start at step 950 as shown. In this example store

specific information may be collected by a survey

(step 954). The survey data is used to provide a

store by store promotion combination optimization

(step 958). In one example, 200 products may be

discussed in the survey. A promotion combination

may be a combination of 20 of the 200 products at

different discounts and displays. It may be found

that each store of 100 stores in a chain has a

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different promotion combination optimization. Promotion clusters are created to cluster the stores according to how close their promotion combinations are (step 962). Promotion combinations for each store are then determined by the cluster that the store is in (step 966). The steps of FIG. 9 stop at step 970.

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